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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,004	06/15/2005	Thomas Bierbaum	66489-055-7	9457
25269 7590 08/13/2007 DYKEMA GOSSETT PLLC FRANKLIN SQUARE, THIRD FLOOR WEST 1300 I STREET, NW WASHINGTON, DC 20005			EXAMINER SINGH, SUNIL K	
			ART UNIT 3732	PAPER NUMBER
			MAIL DATE 08/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/539,004

Applicant(s)

BIERBAUM ET AL.

Examiner

Sunil K. Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/15/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference numeral "57". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because the abstract contains the legal phraseology "comprising". Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities: On page 1, Line 7 and on page 3, Line 6, the applicant refers to "claim 1". However, there is no claim 1 in the application. Furthermore, the applicant should not refer to a claim in the specification.

Appropriate correction is required.

Claim Objections

5. Claim 54 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 54 depends from the cancelled claim 1.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 31-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the uncoated part" in Line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 34 recites the limitation "the exposed surface" in Line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 39 recites the limitation "said carrier layer" in Line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 42 recites the limitation "the electrical resistance" in Line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 56 recites the limitation "said other lubricants" in Lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 31-36, 38,39,41,42,44,45,47-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Metrikin (US 2002/0142264).

Metrikin discloses a dental handpiece [009] (Figs. 4 and 5) with parts that can be moved relative to each other and that includes: the parts being in mutual surface-contact (Figs. 4 and 5); a lubricant for the lubrication of parts; at least one of the parts having a coating of lubricant (14) on at least part of its surface [0016]; wherein the parts/components can be various types of bearings and motors used in dental

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handpieces [0009]; it is inherent that the part/components that are moved relative to each other provide a type of coupling; the lubricant being constituted such that when the parts move, the lubricant is transferred from the part with the coating to the uncoated part (layers of silver have this property); the lubricant (silver) (14) and the opposing surface of the uncoated part being constituted so that the lubricant adheres to the opposing surface of the uncoated part (54) with a strong adhesion force (Clam 8); wherein the lubricant is a solid lubricant [0016]; it is inherent that the lubricating substance on the exposed surface of said coating is greater than on the side adjacent the component to be coated and that the lubricating substance (silver) has a carrier layer attached to the surface of the coated parts; the carrier layer is metallic; the lubricating substance (14) has an embedded component which assume a liquid state during operation (oil) [0016]; wherein the coating comprises one or more sub-layers (16); wherein one or more layers have internal attenuation means [0019]; the thickness of the silver layer (14) will be changed by wear and thus resulting in a change of the electrical resistance; it is common knowledge that the lubrication substance will differ optically from the carrier material and wherein the lubrication substance's optical properties will change with wear; wherein a second non-bonded lubricant (16) is present; wherein the lubricating substance is in the form of a support for the lubricant or lubricants and where the lubricating material is selected where they are compatible with other lubricants of prior art such as oil [0009],[0016-0017]; and where the coating and/or other lubricants are sterilizable [0018],[0019].

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9. Claims 31,40,43,46 are rejected under 35 U.S.C. 102(b) as being anticipated by Heshmat (US 6,158,893).

Heshmat discloses a dental handpiece with parts that can be moved relative to each other (14,18) (Column 2, Lines 64-66) that includes: the parts being in mutual surface contact; a lubricant for lubrication of said parts (14,18); at least one of the parts having a coating (15) of lubricant (MoS₂ coating, Column 5, Line 5) on at least part of its surface; the lubricant being constituted so that when parts move, the lubrication is transferred from the coated part (18) to the uncoated part (14) (MoS₂ layers are known for such a property); the lubricant (MoS₂) and the opposing surface of the uncoated part (14) being so constituted that the lubricant adheres to the opposing surface of uncoated part (14) (the properties of MoS₂ allows the lubricant to adhere to a carbide-coated shaft); the lubricant (MoS₂) in the coating (15) is a solid lubricant; the different soft layers (PAI, PTFE, MoS₂) have pressure-resistant and electrically insulating properties; and wherein the coating of MoS₂ lubricant reduces the surface hardness.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metrikin (US 2002/0142264) in view of Horton et al. (US 6,340,245).

Metrikin discloses the invention substantially as claimed except for an instrument where the coating comprises a metal-doped, diamond-like (DLC) layer.

Horton et al. teaches an instrument that comprises a metal-doped, diamond-like layer (8) (Column 3, Lines 13-14) in order to provide a coating that offers low friction and high wear resistance (Column 1, Lines 56-69). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Metrikin by having a coating that comprises a metal-doped, diamond-like layer, as taught by Horton et al., in order to provide a coating that offers low friction and high wear resistance.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 Form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil K. Singh whose telephone number is (571) 272-3460. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris L. Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sunil K Singh
Examiner
Art Unit 3732

SKS
08/04/2007



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